

### Glyphosate (active ingredient in Round-Up)

Over 400 registered pesticide products contain glyphosate.

Glyphosate is not a Restricted Use Pesticide.

Estimated annual use in agriculture is approximately 200 million pounds.

Heaviest use is in corn and soybeans genetically engineered to tolerate glyphosate.

Estimated annual use in home and garden is 5-8 million pounds.

Drinking water Maximum Contaminant Level (MCL): 700 ug/L.

### Registration Review

Glyphosate Registration Review started in 2009 and was originally expected to be completed in 2015. It has been delayed by at least a year.

- Public comment opportunities
  - Summer 2015 (estimate): Preliminary Risk Assessments
  - 2016 (estimate): Proposed Registration Review Decision

### Glyphosate and Monarch Butterflies

February 2014: National Resources Defense Council (NRDC) filed a petition asking EPA to restrict glyphosate use to prevent unreasonable adverse effects to the monarch butterfly or its habitat, i.e. milkweed plants.

June 24, 2015: EPA denied the NRDC petition noting that restricting use of one herbicide would lead to use of others that could also affect habitat.

June 24, 2015: EPA released for public comment, “EPA’s Risk Management Approach to Identifying Options for Protecting the Monarch Butterfly.” The approach includes looking at potential effects of various herbicides directly on butterflies and indirectly on habitat (e.g., milkweed for monarchs).

### Glyphosate Toxicity

Acute toxicity to humans is low.

### Carcinogenicity

- March 2015: the International Agency for Research on Cancer (IARC) classified glyphosate as “probably carcinogenic to humans.”
- EPA position (as of 2006): no evidence of human carcinogenicity.
- This issue will be addressed in the preliminary human health risk assessment for glyphosate due out this summer.

### Exposure

- Several studies have found glyphosate residues in human urine (men, women and children)
- Highest levels were found in pesticide applicators
- Low levels were found due to dietary exposures
- Levels were all below health-based reference values

### Glyphosate residues in food

General Accounting Office Report (2014): “[FDA National Residue Program—enforcement monitoring] does not test for several commonly used pesticides with an Environmental Protection Agency (EPA) established tolerance (the maximum amount of a pesticide residue that is allowed to remain on or in a food)—including glyphosate, the most used agricultural pesticide”

USDA Agricultural Marketing Service Report (2011): Glyphosate and its main breakdown product were tested in 300 soybean samples: 271 (90.3 percent) contained glyphosate at levels ranging from 0.26 parts per million (ppm) to 18.5 ppm. The breakdown product was detected in 287 (95.7 percent) samples at levels ranging from 0.26 ppm to 20 ppm. The tolerance for glyphosate in soybeans is 20 ppm – no samples exceeded that tolerance.

#### US Geological Survey

2014: Nearly 4,000 surface water, groundwater, and sediment samples from 38 states and DC from both agricultural and urban areas; collected 2001-2010; glyphosate and/or its breakdown product were detected in 59% of surface water samples and 8.4% of groundwater samples; all levels were well below levels of concern for human health or wildlife.

“Glyphosate use in the United States increased from less than 5,000 to more than 80,000 metric tons per year between 1987 and 2007, but glyphosate is seldom included in environmental monitoring programs, due in part to technical difficulties in measuring it...”

#### Hawaii

Kathy Taylor, Pam Cooper and staff met this week with Gary Hooser, County of Kauai Councilmember, to discuss his concerns about pesticide use on Kauai. Specifically, his concerns focus on four large biotech companies that produce corn seed, which is ultimately grown by farmers on the mainland. While the four companies have agreed to voluntarily provide information on the restricted use pesticides that they use on a monthly basis, they do not provide information on the use of general use pesticides, including glyphosate (Round-Up). Mr. Hooser believes that there could be harm from these pesticides, especially because the companies can grow three seasons of corn seed in one year on Kauai, due to favorable weather conditions. We will be working with Mr. Hooser from both the Regional level (assuring proper oversight of the HI Dept. of Agriculture), as well as providing him with contacts and assistance from our HQ Office of Pesticide Programs.

#### Europe

Over the counter sales banned in The Netherlands and France.

All uses prohibited in Bermuda and Sri Lanka.

Use in public spaces banned in The Netherlands.